

## PATENT ABSTRACTS OF JAPAN

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SOFTWARE KK

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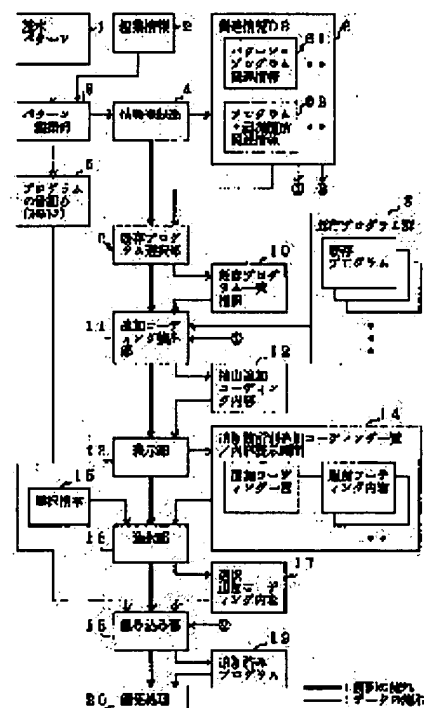
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(54) ADDITIONAL CODING DIVERSION SYSTEM AT THE TIME OF GENERATING PROGRAM

(57)Abstract:

**PURPOSE:** To divert processing coding in an existed program to the structure of a program so as to complete the program.

CONSTITUTION: A basic pattern 1 is edited and the structure 5 of the program is prepared. The program edited from the same pattern and additional coding in the program are extracted from an existed program group 8 by referring to a related information data base. An extracted extraction additional coding content 12 is displayed in a screen, and a user gives the instruction of recognition and selection. Thus, selected selection additional coding 18 is incorporated in an appropriate position in the structure 5 of the program and the program 19 which is already added is prepared. The user only corrects and alters a part of the additional coding which is incorporated in the added program 19. Thus, a target program can be completed and program preparation can be made efficient.



## LEGAL STATUS

[Date of request for examination]

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[Patent number]

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CLAIMS

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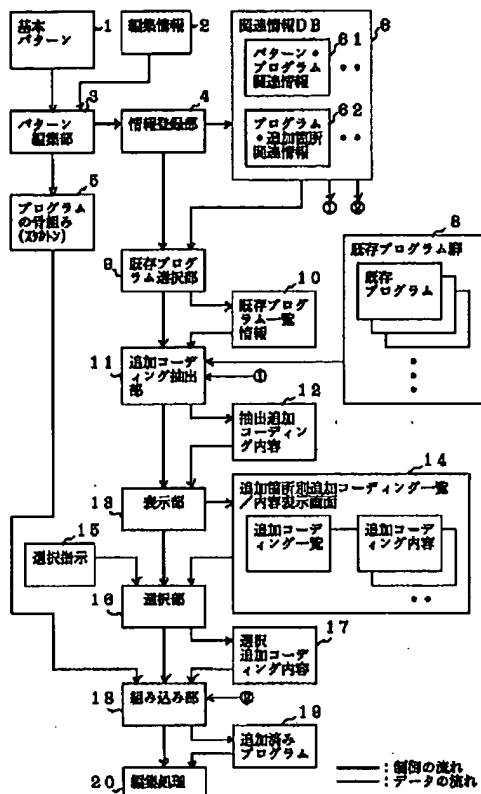
[Claim(s)]

[Claim 1] In the method which the basic pattern of the skeleton of the program prepared beforehand is edited [ method ], the skeleton of an object program is created [ method ], and coding of the processing needed for it is added [ method ], and completes a program A means to register the list of the parts which should be added to a pattern, the related information of the edited program, and a program at the time of edit of a pattern, A means to look for the existing program created using the pattern, A means to extract additional KODINGU \*\* out of the existing program source, A means to display the list and the contents of additional coding which were extracted with this extract means, The additional coding appropriation method at the time of the programming characterized by providing a means to choose suitable additional coding from the contents of a display by this display means, and the means which includes additional coding chosen with this selection means in an additional location.

[Claim 2] The additional coding appropriation method at the time of the programming according to claim 1 to which said basic pattern is characterized by having the processing by which the modularization was carried out, the information which shows whether they are whether it is indispensable although each processing constitutes a program, and arbitration, and the information additional coding indicates [ the processing / the need or ] it to be whether it is unnecessary.

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[Translation done.]



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## DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] In this invention, what was chosen from the existing program group as the skeleton of the program which edited and created the basic pattern by carrying out an extract and a contents display of additional coding automatically about the approach of adding additional coding, for the purpose of appropriation of additional coding of the existing program especially created using the same basic pattern is related to the method which incorporates to an additional part.

[0002]

[Description of the Prior Art] Conventionally, creation of this kind of additional coding looked for the existing program, that program was decoded, additional coding was extracted, and most was creating additional coding newly from the beginning regardless of appropriation in that the programmer itself refers to it and diverts it \*\*\*\*.

[0003]

[Problem(s) to be Solved by the Invention] Since it takes time amount that the method of create the skeleton of a program using the conventional basic pattern mentioned above , and add additional coding discovers additional KODIN from the existing program , or it becomes only what was able to discovered the object which can be divert and the cases which the appropriation range is narrow and create additional coding newly increase in number , it is needed in the man day and the test create , and the fault that productivity and quality fall is .

[0004]

[Means for Solving the Problem] The additional coding appropriation method at the time of the programming of this invention In the method which the basic pattern of the skeleton of the program prepared beforehand is edited [ method ], the skeleton of an object program is created [ method ], and coding of the processing needed for it is added [ method ], and completes a program A means to register the list of the parts which should be added to a pattern, the related information of the edited program, and a program at the time of edit of a pattern, A means to look for the existing program created using the pattern, A means to extract additional KODINGU \*\* out of the existing program source, A means to display the list and the contents of additional coding which were extracted with this extract means, It is characterized by providing a means to choose suitable additional coding from the contents of a display by this display means, and the means which includes additional coding chosen with this selection means in an additional location.

[0005]

[Example] Next, this invention is explained with reference to a drawing.

[0006] Drawing 1 is the block diagram of one example of this invention. Drawing 2 is the related Fig. of the skeleton of a program, and an additional coding part generated by the pattern edit of one example of this invention. Drawing 3 is the storing formal Fig. of the related information database of one example of this invention. Drawing 4 is the procedure Fig. of the additional coding list classified by additional part of one example of this invention, a contents display, and correction.

[0007] Drawing 1 shows the method which diverts pattern edit and additional coding, drawing 2 shows the skeleton of the program generated by pattern edit, and the relation of the required part of additional coding, the example of the pattern program related information stored in the related-information database and program / addition part related information is shown in drawing 3 , the screen of the list according to additional part and a contents display of additional coding of the existing program is shown, and the procedure modify to coding suited to the object program is shown in drawing 4 .

[0008] The basic pattern 1 beforehand prepared as drawing 1 showed mode of processing of one example of this invention, The edit information 2 for editing a pattern, and the pattern edit section 3 which edits the basic pattern 1 using the edit information 8, The related information registration section 4 which registers the related information of the additional part of the processing to the pattern used at the time of edit of a pattern, the generated program, and a program into the related information database 6, The pattern program related information 61 which is the registered related information, and program / addition part related information 62, The existing program group 8 created by pattern edit and the existing program selection section 9 which chooses the existing program created based on the related information database 6 using the same pattern, The existing program list information 10 which is the selected information, and the additional coding extract section 11 which extracts the contents of additional coding from the existing program, The extracted contents 12 of extract addition coding, and the display 13 which carries out a screen display of a list display or the contents according to an additional part for the contents of additional coding, The additional coding list classified by additional part / contents display screen 14 which displays the additional coding list classified by additional part, and the contents of additional coding, The selection directions 15 which are the directions for choosing additional coding, and the selection section 16 which chooses additional coding according to selection directions, The selected contents 17 of selection addition coding, and the inclusion section 18 for including additional coding chosen as the skeleton of a program in a required additional part, It consists of an added program 19 in which additional coding was included, and conventional edit processing 20 in which an added program is finally edited by the conventional edit approach.

[0009] The actuation is explained with reference to drawing 2 , drawing 3 , and drawing 4 about drawing 1 below.

[0010] The skeleton 5 of the program which edits the basic pattern prepared beforehand and is made into the purpose is generated, in order to add processing required for it and to complete a program, the pattern edit section 3 inputs the edit information 2 for obtaining the skeleton of the program made into the purpose from the basic pattern 1, and the skeleton 5 of a program is generated as an edit result.

Drawing 2 explains the example at this time.

[0011] It has the processing by which the modularization was carried out to the basic pattern shown by drawing 2 , the information which shows whether they are whether it is indispensable although each processing constitutes a program, and arbitration, and the information additional coding indicates [ the processing / the need or ] it to be whether it is unnecessary further. The edit information given for edit is directions which choose the collating processing 2 which is the module of arbitration \*\* and arbitration \*\*, and print processing, and the skeleton of the program which consists of an indispensable module and a module of the selected arbitration as the result is generated. The information on being the module which needs additional coding is also then inherited by the module which constitutes the skeleton of the generated program.

[0012] Next, after processing of the pattern edit section 3 finishes, the module which needs additional coding in the program which is a program generated using which pattern that is the information which control was passed to the information registration section 4 and collected at the time of pattern edit processing, or was generated registers information, such as something, into a related-information database as the pattern program related information 6 and program / addition part related information 7. Drawing 3 explains the example of each related information at this time.

[0013] In the example of the related information database shown by drawing 3 , the used pattern name is PAT01 and the generated program name is PRG-01. And additional registration of the pattern program related information and program / addition part related information which are two related information is

carried out at the existing information.

[0014] Next, after registration of a related information database finishes, the existing program list information 10 which is the list of the existing programs generated by the existing program selection section 9 using the pattern same based on the pattern program related information 6 in a related information database is created. The contents 12 of extract addition coding which extracted the contents of additional coding from the existing program group based on the existing program list information 10 and program / addition part related information 7 in a related information database, and included the additional part for every program and the contents of additional coding in it in the additional coding extract section 11 are created.

[0015] If required information is extractable, control will move to a display 13, the contents 12 of extract addition coding will be inputted, and the additional coding list classified by additional part / contents display screen 14 will be displayed. The contents of a display are a list and contents of additional coding.

[0016] Next, the selection directions 15 which are the directions for obtaining additional coding which is most similar to an object program with the selection section 16 are repeated, and it opts for final additional coding because a user does a contents check, and the contents 17 of selection addition coding are created.

[0017] Into the skeleton 5 of the program already generated, additional selected coding is incorporated by the inclusion section 18 in a suitable additional part, and creates the added program 19. This added program 19 can complete a final object program by the still more general edit processing 20. By drawing 4, it incorporates from selection of additional coding, and the example to completion of an object program is explained.

[0018] In \*\* list display shown by drawing 4, the program whose additional coding has the initial processing which is required processing, and processing similar to this in program PRG-01 is displayed. Here, if program name PRG-B is chosen, it can check whether the contents of the initial processing which is the additional module of program PRG-B are displayed in the form of the contents display of \*\*, and it can divert. If additional coding which can be diverted is determined, it will be included in the suitable location of the skeleton of a program. A user modifies to the contents suitable for an object program, and completes an object program.

[0019] It is the example which corrected to the merchandise inventory file here the goods master file which is a file name.

[0020]

[Effect of the Invention] As explained above, as one of the programming approaches, this invention edits the basic pattern of the skeleton of the program prepared beforehand, and creates the skeleton of an object program. In the method which coding of the processing to need is added [ method ] and completes a program When diverting additional coding of the existing program edited and created from the same basic pattern, By considering inclusion in an additional location as selection of additional coding similar to a coding image to discover the existing program automatically, extract additional coding, perform a list and a contents display, and divert most Additional coding can be completed by a part of corrections for the appropriation from man day reduction and similar coding of additional coding creation, and there is effectiveness which the inspection range is narrow and can perform improvement in collapsibility productivity and quality.

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TECHNICAL FIELD

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[Industrial Application] In this invention, what was chosen from the existing program group as the skeleton of the program which edited and created the basic pattern by carrying out an extract and a contents display of additional coding automatically about the approach of adding additional coding, for the purpose of appropriation of additional coding of the existing program especially created using the same basic pattern is related to the method which incorporates to an additional part.

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PRIOR ART

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[Description of the Prior Art] Conventionally, creation of this kind of additional coding looked for the existing program, that program was decoded, additional coding was extracted, and most was creating additional coding newly from the beginning regardless of appropriation in that the programmer itself refers to it and diverts it \*\*\*\*.

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EFFECT OF THE INVENTION

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[Effect of the Invention] As explained above, in this invention as one of the programming approaches In the method which the basic pattern of the skeleton of the program prepared beforehand is edited [ method ], and coding of the processing which creates and needs the skeleton of an object program is added [ method ], and completes a program When diverting additional coding of the existing program edited and created from the same basic pattern, The existing program is discovered automatically and inclusion in an additional location is considered as selection of additional coding similar to a coding image to extract additional coding, perform a list and a contents display, and divert most. Therefore, additional coding can be completed by a part of corrections for the appropriation from man day reduction and similar coding of additional coding creation, and there is effectiveness which the inspection range is narrow and can perform improvement in collapsibility productivity and quality.

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**TECHNICAL PROBLEM**

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[Problem(s) to be Solved by the Invention] Since it takes time amount that the method of create the skeleton of a program using the conventional basic pattern mentioned above , and add additional coding discovers additional KODIN from the existing program , or it becomes only what was able to discovered the object which can be divert and the cases which the appropriation range is narrow and create additional coding newly increase in number , it is needed in the man day and the test create , and the fault that productivity and quality fall is .

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MEANS

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[Means for Solving the Problem] This invention is characterized by the method which the additional coding appropriation method at the time of the programming of this invention edits [ method ] the basic pattern of the skeleton of the program prepared beforehand, and creates [ method ] the skeleton of an object program, and coding of the processing needed for it is added [ method ], and completes a program possessing the following. A means to register the list of the parts which should be added to a pattern, the related information of the edited program, and a program at the time of edit of a pattern A means to look for the existing program created using the pattern A means to extract additional KODINGU \*\* out of the existing program source A means to display the list and the contents of additional coding which were extracted with this extract means, a means to choose suitable additional coding from the contents of a display by this display means, and the means that includes additional coding chosen with this selection means in an additional location

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram of one example of this invention.

[Drawing 2] It is the related Fig. of the skeleton of a program, and an additional coding part generated by the pattern edit of one example of this invention.

[Drawing 3] It is the storing formal Fig. of the related information database of one example of this invention.

[Drawing 4] It is the procedure Fig. of the additional coding list classified by additional part of one example of this invention, a contents display, and correction.

[Description of Notations]

- 1 Basic Pattern
- 2 Edit Information
- 3 Pattern Edit Section
- 4 Related Information Registration Section
- 5 Skeleton of Program
- 6 Pattern Program Related Information
- 7 Program / Addition Part Related Information
- 8 The Existing Program Group
- 9 The Existing Program Selection Section
- 10 The Existing Program List Information
- 11 Additional Coding Extract Section
- 12 The Contents of Extract Addition Coding
- 13 Display
- 14 Additional Coding List Classified by Additional Part / Contents Display Screen
- 15 Selection Directions
- 16 Selection Section
- 17 The Contents of Selection Addition Coding
- 18 Inclusion Section
- 19 Added Program
- 20 The Conventional Edit Processing

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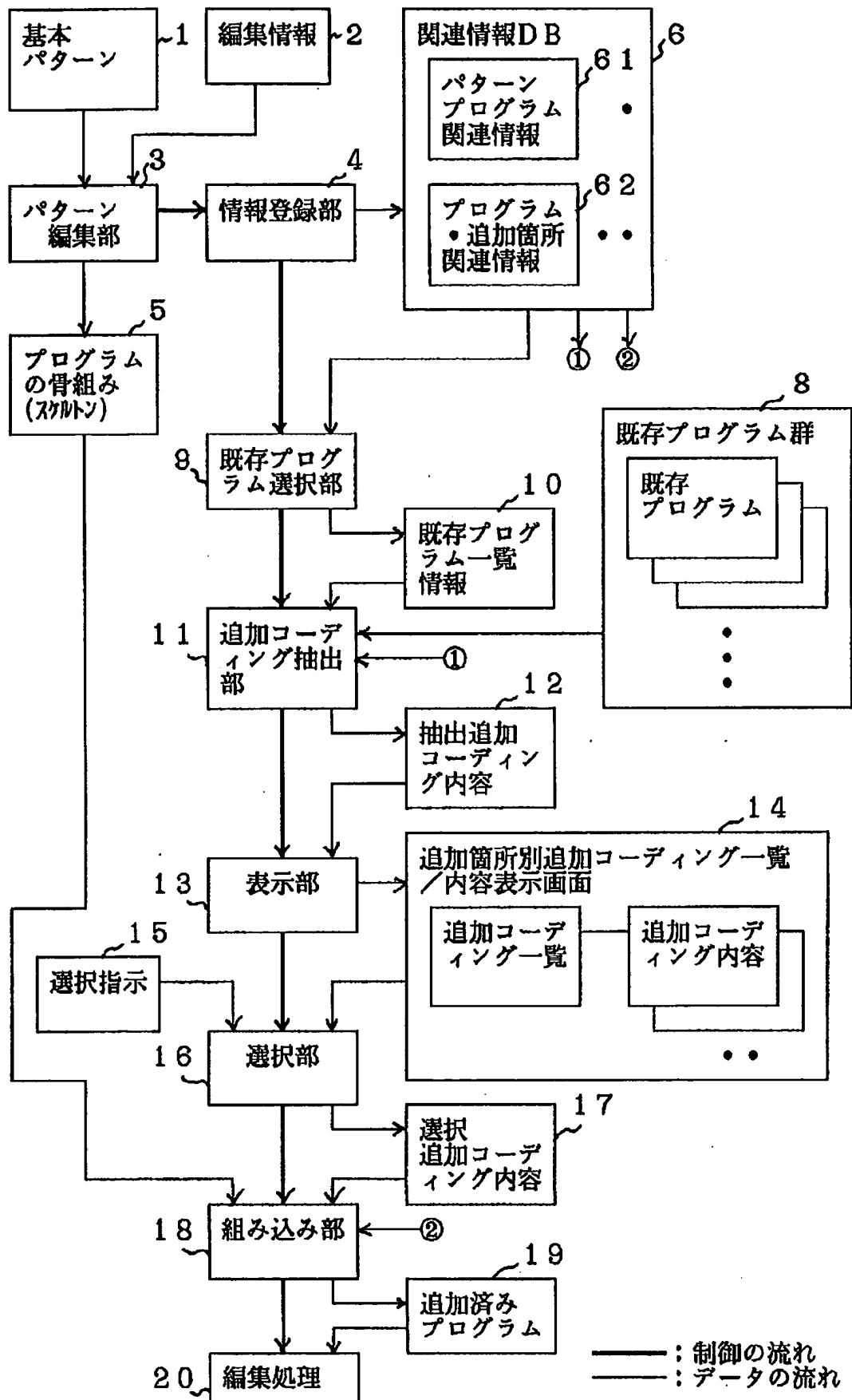
## DRAWINGS

[Drawing 3]

## ① パターン・プログラム関連情報    ② プログラム・追加箇所関連情報

パターン名	プログラム名	プログラム名	追加箇所
PAT01	PRG-01	PRG-01	初期処理
	PRG-A		終了処理
	PRG-B		照合処理2
	...		プリント処理
PAT02	PRG-X	PRG-A	初期処理
			終了処理
			プリント処理
...		PRG-B	初期処理
			終了処理
			照合処理2
		PRG-X	...
			...

[Drawing 1]



[Drawing 2]



[Drawing 4]



## ①一覧表示

□□□ 追加箇所別追加コーディング一覧／内容表示画面 □□□

プログラム名

追加モジュール名

選択	プログラム名
	PRG-A
<input type="radio"/>	PRG-B
	...

選択

## ②内容表示

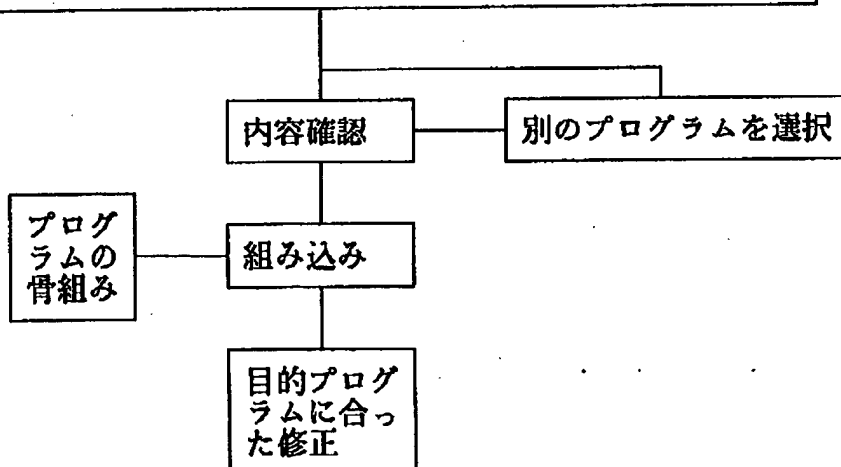
□□□ 追加箇所別追加コーディング一覧／内容表示画面 □□□

プログラム名  追加モジュール名

```

PROC: 初期処理
      INITIALIZE WORK.
      INITIALIZE SW-AREA.
      DISPLAY "開始".
      OPEN INPUT 売上ファイル.
      OPEN I-O 商品マスタファイル.
      OPEN OUTPUT 売上帳票.
END:
  
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[Translation done.]